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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/349,198	07/07/1999	CHRISTOPHER F. PARKER	22074661-255	6293

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EXAMINER

COLBERT, ELLA

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	09/349,198	
Examiner	Art Unit	
Ella Colbert	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 November 2002.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-6 and 12-29 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-6 and 12-29 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 4) Interview Summary (PTO-413) Paper No(s) _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

1. Claims 1-6 and 12-29 are pending. Claims 1-6,12, and 17-19 have amended in this communication filed 11/18/02 entered as Amendment B and Extension of Time, paper no. 11.
2. The Drawing Objection to fig. 2 has been overcome by Applicant's amendment to fig. 2 and is hereby withdrawn. The drawing correction to Fig. 2 has been reviewed and approved. The Objection to figure 3 still remains as stated below.
3. The claim objections to claims 1 and 17 have been overcome by Applicant's amendment to claims 1 and 17 and is hereby withdrawn.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 3, step 300. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "322" in Figure 3. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 1 is objected to because of the following informalities: Claim 1, line 2 recites "a table recovery system, the table recovery system operable". This claim limitation would be better recited as "a database table recovery system, the database table recovery system operable" and line 10 has a similar problem. Claim 2, line 1 has a similar problem. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-6 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,721,915) Sockut et al, hereafter Sockut.

With respect to claim 1, Sockut teaches, a table recovery system (col. 1, lines 20-33 and col. 9, lines 19-22) the table recovery system operable to retrieve a backup copy of a tablespace and to apply updates to the backup copy from a log (col. 2, lines 4-11), and to restore a database table in the table space from the updated backup modifying the configuration of the tablespace (col. 3, lines 61-67 and col. 4, lines 1-17). Sockut did not teach, a tablespace access system coupled to the table recovery system, the tablespace access system is operable to restrict access to the tablespace to read-only access, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a table recovery system and in view of Sockut's teachings in col. 8, lines 57-67, col. 9, lines 1-18 and lines 37-44 of database

performance and to modify in Sockut because such a modification would allow Sockut's system to have independent recovery of the data and indexes and a significant decrease in elapsed time since the log file updates are done for all objects in the database through the log file.

With respect to claim 2, Sockut teaches, the table recovery system further comprises a log record sorter system operable to sort log records from the log record file (col. 7, lines 25-36).

With respect to claim 3, Sockut teaches, a data page updater system coupled to the log record sorter system operable to apply the log record updates to a backup copy (col. 7, lines 37-62).

With respect to claim 4, Sockut teaches, a data page scanner system coupled to the data page updater system, the data page scanner system operable to locate page rows associated with the database table in at least one data page (col. 11, lines 41-67 and col. 12, lines 1-11).

With respect to claim 5, Sockut did not explicitly teach, a page row extractor system coupled to the data page scanner system operable to extract the page rows from the at least one data page that has been located by the data page scanner system, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a page row extractor system coupled to the data page scanner system operable to extract the page rows from the at least one data page that has been located by the data page scanner system to modify in Sockut in view of his teachings in col. 3, lines 10-17, col. 9, lines 64-67, and col. 10, lines 13 of a scan table, mapping a table including columns and rows because such a modification would allow Sockut to have a page row extractor system to complement Sockut's page scanner system and mapping table rows.

With respect to claim 6, Sockut did not explicitly teach, the table row inserter system coupled to the page row extractor system operable to write the extracted page rows to the database table, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a table row inserter and to modify in Sockut because such a modification would allow Sockut to have additional rows of data occupying or potentially occupying each cell formed by a row-column intersection. It is well known in the database art that a row is a series of items arranged horizontally within some type of framework.

With respect to claim 12, receiving a backup copy of the tablespace having one or more database tables (col. 9, lines 19-32), reading log records associated with a first database table in the one or more database tables (col. 4, lines 5-11), applying the log records to the backup copy (col. 4, lines 22-29), building new table data pages from the backup copy (col. 14, lines 66-67), scanning the new table data pages for records of the first database table (col. 11, lines 52-66), and updating the first database table from the records (col. 14, lines 12-22). Sockut did not explicitly teach, reading log records associated with a first database table in the one or more database tables, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to read log records associated with a first database table in the one or more database tables and to modify in Sockut because such a modification would allow the data to be read and updated in the first table before it is copied to the new database table/tables and a backup copy is made of the data pages.

With respect to claim 13, Sockut did not explicitly teach, limiting access of the second table to the tablespace to read-only before the first table is updated and the second table depends on the tablespace, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to limit access of the second

table to the tablespace to read-only before the first table is updated and the second table depends on the tablespace and to modify in Sockut because such a modification would allow Sockut to have the capability of retrieving the tablespace but not being able to change it prior to the first table being updated. It is well known in the art that a read-only document can be displayed or printed but not altered in any way; read-only memory (ROM) holds programs that cannot be changed.

With respect to claim 14, Sockut did not explicitly teach, providing update access to the second table after the first table is updated but it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide update access to the second table after the first table is updated and to modify in Sockut because such a modification would allow the second table to be updated in successive order since the first table is first to receive the update with the second table following which is in chronological order. Relational database management systems usually work with two data tables at the same time, relating the information or data through links established by a common column or field. A tablespace stores one or more tables containing file pages.

With respect to claim 15, Sockut teaches, sorting the log records (col. 12, lines 51-65).

With respect to claim 16, Sockut teaches, deleting the rows (col. 9, lines 64-67). Sockut did not explicitly teach, locking the indices, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to lock out the indices and to modify in Sockut because such a modification would eliminate the space needed for the indices and the time needed for accessing the indices.

With respect to claim 17, Sockut teaches, building one or more table data pages from the backup copy having the log records applied (col. 3, line 61-67 and col. 4, lines

1-30); selecting one or more records from the one or more database table data pages, the one or more records belonging to the first database table (col. 5, lines 56-67 and col. 6, lines 1-34); updating the first database table with the one or more records selected from the one or more table data pages while allowing access to the rest of the one or more database tables in the tablespace (col. 6, lines 35-50); and wherein the first database table can be recovered without having to recover the tablespace entirely (col. 7, lines 13-56).

This independent claim is rejected for the similar rationale given for claim 12.

With respect to claim 18, Sockut teaches, allowing at least one of the one or more tables to have update access to the tablespace when the first database table is restored (col. 12, lines 18-25).

With respect to claim 19, Socket teaches, deleting all rows of the first database table (col. 9, lines 64-67). Sockut did not explicitly teach, locking out access to indices of the first database table but it would have been obvious to one having ordinary skill in the art at the time the invention was made to lock out access to indices of the first database table and to modify in Sockut because such a modification would eliminate the space needed for the index and the time needed for accessing the index.

With respect to claim 20, reading the log records from the log record file to a log record workspace (col. 4, lines 5-11), sorting the log records (col. 4, lines 11-17), and applying the log records to the tablespace backup copy (col. 4, lines 22-29 and col. 9, lines 19-22).

Response To Arguments

8. The Response to Arguments is silent.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 703-308-7064. The examiner can normally be reached on Monday-Thursday from 6:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 703-308-1038. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for Official communications and 703-746-5622 for Unofficial communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.



E. Colbert
January 22, 2003



VINCENT MILLIN
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